What is A-GPS positioning technology? What is the effect of A-GPS? A-GPS On which device?

The article provides information about A-GPS positioning technology, concept, what A-GPS does, advantages and disadvantages of A-GPS, how A-GPS works, data types that support On what devices is A-GPS and A-GPS support available.

Users of mobile devices such as smartphones , smartwatches , laptops or tablets must be no stranger to the map and location determination feature. That is the A-GPS global positioning system. In this article, I will share some information about A-GPS positioning technology. Let's see it now!

1. What is A-GPS?

A-GPS is a technology that uses GPS positioning and GPS sensors, as well as telecommunications network signals, to infer a device's current location. A-GPS speeds up the location calculation making your device's positioning function faster as well as the ability to determine the relative position when the device enters the area of ??loss of GPS satellite signal.

2. What does A-GPS do?

The birth of the A-GPS navigation system is considered a major turning point in science, bringing enormous benefits to people's lives today. The benefits of A-GPS positioning device:

1. Can track the journey and accurately locate the location of vehicles or people.
2. Update journey information such as speed, direction of travel, stops, etc.
3. Integrated with handheld locator to prevent car theft and track lost vehicles.

4. Give warnings when the vehicle exceeds the allowed speed or enters a dangerous road area, etc.
5. Support driver identification in driver management to prevent theft or change drivers.
6. Built-in ability to calculate fuel consumption.
7. And many other advantages and features.

3. Advantages and disadvantages of A-GPS

Advantages

Even in cases obstructed by satellites such as indoors when object coordinates can be determined. The A-GPS system is used to determine the location of vehicles in the tunnel. On the other hand, A-GPS devices must encode large amounts of signals to perform the positioning task. In general, the A-GPS device is a relational parallel processing device, operating in a very short time.

Defect

Besides the advantages, A-GPS technology also faces some other limitations. Currently, because Vietnam's telecommunications network infrastructure has not met the demand for high-speed data transmission, the use of A-GPS still depends on Wi-Fi connections. However, service providers are investing heavily in 3G network infrastructure, which offers a brighter future for applications that require this level of bandwidth.

4. How does A-GPS work?

A-GPS will work thanks to mobile service providers deploying on the A-GPS server. These servers can be seen as cache copies of GPS data, as they collect data from satellites and store them in a database on the ground. When your phone connects to these servers over 3G, 4G or even Wi-Fi. These connections are much faster than satellite links.

Since A-GPS relies on the Internet to work, it will stop working if you go into an area with weak signal or if your network connection is lost. In principle, you will need to spend some money on 3G and 4G data charges, but not much. Meanwhile, the GPS connection is completely independent of the Internet.

5. A-GPS supported data types

Mobile Station Based (MSB)

The phone uses the support server to help find satellites much faster because the server already has information about the satellites' orbits and exact time. The phone then calculates its exact location.

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Mobile Station Assisted (MSA)

The phone tracks the time and position of the GPS satellites and transmits this information to a ground server, which uses it to determine the position of the satellites (in combination with some other data already available). hosted by the server). Returns the current location to the phone after it has been calculated. An advantage of MSA is that the server will perform the location calculation, so the phone will be lighter, the location will be calculated faster.

6. On what devices is A-GPS available?

Most phones these days don't just use GPS or A-GPS, it's also combined with a Wi-Fi navigation system, a cell tower positioning system, to calculate your location. That's why iOS and Android both show that when you turn on Wi-Fi, positioning is more accurate than when using GPS alone.

Hopefully, after reading this article, you have information about A-GPS positioning technology. Thank you for following the article, see you in the next post!

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